Laboratory Exercise # 12: Throat Culture Unknown

Purpose:

The purpose of this laboratory exercise is for the student to be able to evaluate a throat culture and identify its predominant microorganism.

Introduction:

After having completed the laboratory of differentiation of the genera Staphylococcus and Streptococcus, the student will now perform a throat culture evaluation. Students will have their lab partners swab their throats. The swab will then be used to inoculate a Sheep blood agar plate. After incubation the student will identify whether they have Strep throat (Streptococcus pyogenes) and the predominant microorganism on the plate.

Materials:

Sheep blood agar plates - 2 per student
Taxo "A" disc (.04 units Bacitracin)
Rabbit plasma
3% Hydrogen peroxide
Bile Esculin slant
6.5% NaCl
Sterile swabs

Procedure:

Day 1:

1. Students will have their lab partners swab their throats. The instructor will demonstrate this technique.

2. Roll the swab in the first quadrant of the SBA plate, using a cooled sterile loop to spread the bacteria in quadrant # 1, and then complete a standard 4 quadrant streak plate procedure.

3. Place a Taxo "A" disc (Bacitracin) on the first quadrant. Use sterile forceps to place the disk and then gently tap the disc in place.

4. Incubate the petri dish (inverted) at 37°C until the next lab period.
Day 2:

1. Student will observe the SBA plate and decide if they have *Streptococcus pyogenes* growing in their throat. This information will be recorded on the throat culture report sheet.

2. The student will transfer the predominant microorganism from the throat culture plate to a new SBA plate using the streak plate method. This plate is incubated until the next lab period.

Day #3:

1. Using an isolated colony from the new SBA plate the student will perform the following: record the colonial morphology, hemolysis pattern, do a gram stain and a catalase test.

2. Depending on the results of the catalase test the student will perform either a Coagulase test or a Bile Esulin test and a 6.5% NaCl test. The flow chart provided will aid the student in determining testing to be performed and with the identification of the isolate.
Throat Culture Unknown Report Form  
(Worth 15 points)

Do you have Strep throat? Why?

___________________________________________________________________________

___________________________________________________________________________

Morphology of predominant microorganism:

___________________________________________________________________________

Hemolysis of predominant microorganism:

___________________________________________________________________________

Gram stain and bacteria arrangement:

___________________________________________________________________________

Catalase reaction: ___________________________________________________________

*** Coagulase reaction: ______________________________________________________

*** Bile Esculin reaction: ____________________________________________________

*** 6.5% NaCl reaction: _____________________________________________________

Possible genus and species of predominant microorganism:

___________________________________________________________________________

*** This test may not always be necessary for all bacteria identified. Please read procedure to see if your isolate qualifies!!

Before turning in the report make sure to indicate why some tests were not necessary!

When turning in your report, please submit your # 2 streak plate and the gram stain you performed.